

Amendments to the Drawings:

Replacement drawings are submitted herewith which comply with the Examiner's requirements.

REMARKS

The present invention is a method of updating a set of default coefficients used for quick convergence of an echo canceller. The echo canceller receives a reference signal and converts it to an estimated echo signal of an input signal according to a current set of filter coefficients via feedback of a current error signal as illustrated in new Fig. 3. The method includes applying the default coefficients to an echo canceller for generating a further echo signal; subtracting the further echo signal from the input signal to generate a further error signal; and comparing the current error signal with the future error signal and in the event the further error signal exceeds the current error signal by a threshold amount, then replacing the set of default coefficients by the current set of filter coefficients.

The drawings stand objected to for failing to show the features set forth in the claims. Newly submitted drawings are submitted herewith which label Fig. 1 with the legend "PRIOR ART" and further, substitute a new Fig. 3 for the current Fig. 3 which shows the claimed subject matter. The subject matter of Fig. 3 is based upon the originally filed claims and does not introduce new matter.

The specification stands objected to in Section 3 of the Office Action. This specification has been amended as requested by the Examiner.

Claims 1 and 3 stand objected to regarding the recitation to "in the event said current error signal exceeds said further error signal". The claims have been amended as suggested by the Examiner to recite "in the event said further error signal exceeds said current error signal".

Claims 1-3 stand rejected under 35 U.S.C. §102 as being anticipated by United States Patent 1,163,609 (Makinen et al). With respect to claim 1, the Examiner reasons as follows:

Regarding Claim 1, Makinen discloses an echo canceller (Fig. 3) that receives a reference signal (R_IN) and converges to an estimated echo signal (EST2) of an input signal (S_IN) according to a current set of filter coefficients (50b) via feedback of a current error signal (L_RES2) (column 1, lines 30-34). Makinen further discloses: applying a set of main filter coefficients (10b) that correspond to the default coefficients claimed for generating a main filter echo estimate (EST1) that corresponds to the further echo signal claimed; subtracting (20) the main filter echo estimate (EST1) that corresponds to the further echo signal claimed from the input signal (S_IN) to generate a further error signal (L_RES1); and comparing the current error signal (L_RES2) with the further error signal (L_RES1) (Fig. 6, step 270) and in the event that the further error signal (L_RES1) exceeds the current error signal (L_RES2) by a threshold (K3), copying coefficients from the background (i.e., current) filter to the main (i.e., default) filter (Fig. 6, step 300) (emphasis added).

These grounds of rejection are traversed for the following reasons.

The specification of the present application is directed to capturing and reusing default coefficients that model a constant echo path and updating the default coefficient whenever there is an improvement in the ERLE. As recited in the preamble of claim 1, the default coefficients are only used to quickly converge the echo canceller as recited in the claim. The preamble of claim 1 sets forth limitations also recited in the body of the claim so that the preamble is a limitation for purposes of construing the method steps recited in the body of the claims.

As noted from the above quotation, the Examiner is interpreting the default coefficients as being those produced by the main filter. It is submitted that a person of ordinary skill in the art would not consider this to be the broadest reasonable

interpretation of the default coefficients. Support in Applicants' specification for the claimed "current set of filter coefficients" is the coefficients produced by the main filter 10a. However, the Examiner's interpretation of the current set of filter coefficients is precisely the opposite in that, as set forth in column 7, lines 66-67, through column 8, lines 1-38, of Makinen et al, step 300 recites "copy coefficients from background filter to main filter". The broadest reasonable interpretation of the current set of filter coefficients cannot be read properly by a person of ordinary skill in the art on the background filter coefficients of Makinen et al.

Claim 3 has been amended to recite the threshold amount is at least 300 ms. It is noted that the Examiner has construed Makinen et al into 40 ms. Accordingly, it is submitted that claim 3 is not anticipated by Makinen et al.

Moreover, there is no basis in the record why a person in the ordinary skill in the art would be led to modify Makinen et al to arrive at the subject matter of claims 1-3 without impermissible hindsight.

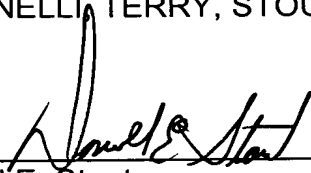
In view of the foregoing amendments and remarks, it is submitted that each of the claims in the application is in condition for allowance. Accordingly, early allowance thereof is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 C.F.R. §1.136. Please charge any shortage in fees due in connection with the

filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (1375.43309X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Donald E. Stout
Registration No. 26,422
(703) 312-6600

Attachments

DES:dlh